

POTOTSKIY, Grigoriy Ivanovich, inzh.; GERASIMOV, I.M., inzh., red.;
USENKO, L.A., tekhn. red.

[Brigades of communist labor in track maintenance and operation]
Brigady kommunisticheskogo truda v putevom khoziaistve. Moskva,
Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia,
1961. 82 p. (MIRA 14:12)

(Railroads—Employees)

SOV-91-58-11-9/20

AUTHORS: Gerasimov, P.N., Luzhetskii, A.A., Mikhel'son, A.Ya, Engineers

TITLE: A Comment on an Article by Ya.G. Yemel'yanov and Ye.I. Kabanov, "The Use of the New Antioxidants Pyramidon and Antipyrine" ("Energetik", 1957, Nr 7) (Po povodu stat'i Ya. G. Yemel'yanova i Ye. I.Kabanova "Primeneniye novykh antiokisliteley piramidona i antipirina" ("Energetik", 1957, Nr 7)

PERIODICAL: Energetik, 1958, Nr 11, pp 20-21 (USSR)

ABSTRACT: On the basis of operational tests of VTI-1 additive, carried out on two transformers of the high-voltage network of Mosenergo, the authors of the afore-mentioned article came to the conclusion that this additive is useless and that most power systems refuse to use it. At the same time they recommended the additives pyramidon and antipyrine on the basis of their general stability in laboratory tests. All of this is disputed by the authors of the

Card 1/2

A Comment on an Article by Ya.G. Yemel'yanov and Ye.I. Kabanov, "The Use of the New Antioxidants Pyramidon and Antipyrine" SOV-91-58-11-9/20

present article, who give examples where VTI-1 is being successfully used, and state that it has the most marked ability to prevent the formation of low-molecular acids in the initial period of the aging of the oil. They also state, that due to its selective action, the few cases where it has proved ineffective are due to it being used with unsuitable oils. A table is given showing laboratory tests which prove these points. The authors conclude by saying, that laboratory tests, in regard to pyramidon and antipyrine, are usually optimistic. There is one table.

Card 2/2

1. Antioxidants--Test results

GERASIMOV, P.P.

1911 NOV. 11. P.P.

Hydrographic Account of the Ocha River, Iw. Omsk. obl. Geogr. ob-va
No. 2:85-86 152. (LIRA 17:7)

(Ocha River)

GERASIMOV, P.P.

Conference on the geomorphology and recent tectonics of Siberia
and the Far East. Geol. i geofiz. no. 6: 139-141 '65.

(MIRA 18:8)

GERASIMOV, P.V., tekhnik

Change in the design of the TPSU-9-120/11 tapping-off switch.
Energetik 9 no.4:22-23 Ap '61. (MIRA 14:8)
(Electric switchgear)

GERASIMOV, R. A.

86-9-20/36

AUTHOR: Gerasimov, R. A., Engineer Lt. Col.

TITLE: Preventive Aircraft Maintenance (Profilakticheskiy remont samoleta)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Vol. 40, Nr 9, pp. 58-60 (USSR)

ABSTRACT: The article gives some information on unspecified Air Force Maintenance Shops (identified by the name of officer A.M. Baranov), mainly on their preventive maintenance work which was started, on front bombers, several years ago. The work on the aircraft starts upon the completion of predetermined time periods or of a certain number of hours of it in operation. The personnel which eventually had to carry out the maintenance work in the Shops were trained just in them; the personnel gained their technical experience before enlisting. Engineers P.I. Sinitsyn, V.M. Pesenka, and V.G. Sumkin helped in the training needed for the maintenance of autopilots and radar sights. The buildings to house the shops, which later worked on the radio, radio-technical and electrical equipment, and on other assemblies, were built by the maintenance personnel themselves. This personnel also developed some new, more

Card 1/5

86-9-20/36

Preventive Aircraft Maintenance (Cont.)

efficient aircraft maintenance methods. In addition to the stands and checking apparatus supplied by the industry, the local "rationalizers" designed and built several other devices with which the disassembling, checking, assembling, and related operations became easier and more efficient. For instance, officer I.A. Kuznetsov and private V.Ye. Ivanov made a simple device (Fig. 1) which raised the efficiency of the work needed for separating the lower assembly of the undercarriage strut and the shock absorber rod twelve times, and which eliminated the possibility of impairing the chrome plating of the latter. Another simple device (Fig. 2) reduced from two to three times the time needed for the pulling of the "tie plugs" out of the lower assembly of the undercarriage leg. The "combined" stands proposed by officers O.M. Konin and I.M. Kolokolov reduced from four to six times the time needed for the checking (apparently of the radio equipment. On the delivery of the aircraft to the Maintenance Shops for repair, the aircraft's technical crew becomes subordinated to the Shops' chief and then actively takes part in all maintenance operations; this method speeds up and improves the work. Jobs are assigned

Card 2/5

86-9-20/36

Preventive Aircraft Maintenance (Cont.)

every day, in accordance with the graph drawn for the purpose of preventive maintenance scheduling. At frequent meetings, the results of the current work are analyzed and discussed, and advice, recommendations, and other information are given. The chiefs of various maintenance job groups, together with the technician of the processed aircraft, check the work carried out on aircraft assemblies and units for correctness. After the completion of the preventive maintenance operations on a given aircraft, the quality of the work completed is checked by all the engineers of the unit; this is done during a "complex inspection" of the aircraft. Last year, the shortage of specialists was the main problem at the Shops, but since then many soldiers learned additional operations and thus the difficulty was remedied. Usually, the maintenance operations, carried out on the processed aircraft, are completed by the T/O personnel of the Shop in 20 to 25 days. When the condition of the aircraft, being in operation, is watched closely every day and its minor defects are corrected promptly, the airframe does not require much maintenance work; thus, the aircraft of technician Lt. S.P. Lipay, thanks to his unremitting exemplary upkeep

Card 3/5

86-9-20/35

Preventive Aircraft Maintenance (Cont.)

of it, required the least amount of maintenance work. The author points out that the amount of the preventive maintenance work can be materially reduced by the similarly scrupulous approach of the engineering-technical personnel, and that this fact must be called to the considered attention of all engineers of the units. In a certain large Air Force unit, in which the preventive maintenance work was carried out both by the Maintenance Shops and the "Techno-exploitation Section", much was done by officers I.F. Ivanov and V.Ye. Yefimov who helped in the training of Section personnel in the preventive maintenance technique. Only the undercarriage struts and air-system cylinders were processed by the Maintenance Shops and solely because the Section had no special tools. The use of labor force needed for the preventive maintenance done by the Section turned out to be somewhat lower than that needed by the Shops, because the Section personnel accumulated much experience in the carrying out of the routine maintenance operations. However, bottlenecks developed in the Section, especially in summer; therefore, the author recommends that, in order to raise the combat fitness, the preventive maintenance

Card 4/5

86-9-20/36

Preventive Aircraft Maintenance (Cont.)

assignments should be planned for the seasons when the Section is less pressed for urgent work, i.e., for the spring and fall. The Section can not carry out, with its T/O personnel, more than three or four preventive maintenance jobs a year. Two figures.

AVAILABLE: Library of Congress

Card 5/5

SOLOMONOV, Petr Andreyevich, starshiy nauchnyy sotr., kand. tekhn. nauk,
inzh.-podpolkovnik; GERASIMOV, R.A., inzh.-polkovnik; DRUZHININSKIY,
M.V., inzh.-podpolkovnik, red.; BUKOVSKAYA, N.A., tekhn. red.

[Service life of modern airplanes] O tekhnicheskoy resurse sovremennykh samoletov. Moskva, Voenizdat, 1962. 66 p.
(MIRA 16:1)

(Airplanes)

CHERASHOV, A. I.; SHCHYNIKA, G. A.

Some causes of errors occurring in semiquantitative spectrum analysis
conducted by M.M.Kler'a method. Zhur. prikl. spekt. 2 no.6:549-552. Ja
'65. (MIRA 18:7)

GERASIMOV, R. Ye.

LIPKIND, G.I., inzhener; GERASIMOV, R. Ye., inzhener

Design of the P-714A press. Der. prom. 6 no. 4:26-27 Ap '57.
(MLRA 10:6)

1. Fanernyy zavod "Furniyers" (for Lipkind). 2. Ufimskiy fanernyy
zavod (for Gerasimov).

(Power presses)

GERASIMOV, R.Ye., inzh.

Modernization of the DSh-2 grinder. Der. prom. 12 no.10:24-25
0 '63. (MIRA 16:10)

1. Ufimskiy fanerno-mebel'nyy kombinat.

GERASIMOV, S.

Review of letters and articles addressed to the publisher.
Sakh. prom, 35 no.8:73-75 Ag '61. (MIRA 14:8)
(Sugar industry)

GRASIMOV, S.

Liturgical Materials

Fouring-asphalt made of liturgical sandstone. 211.- lit. 1 no. 1:29 Ja '52

Monthly List of Russian Accessions, Library of
Congress, July 1952. Unclassified

GERASIMOV, S.

AUTOMATICHESKOYE REGULIRO-VANIYE NA TEПLOVYKH ELEKTRI-CHESKIX STANTSIIAX.
STENOGRAMMA PUBLIЧHOY LEKTSII, PROCHITANNOY V MOSKVE. MOSKVA, ZNANIYE, 1953. 29 p.

(VSESOYUZHNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLI-TICHESKIX I NAUCHNYKH ZNANIY.
SER. 4, No 39)

OKRASIMOV, S.

Unpolished mosaic steps. Stroitel' 2 no.10:19 0 '56. (MIRA 10:1)
(Stair building) (Mosaics)

GERASIMOV, S., kand.tekhn.nauk, dots.

Poured asphalt made with bituminous sandstone. Zhil.-kon.
khoz. 10 no.1:21-22 '60. (MIRA 13:5)

1. Kazanskiy inzhenerno-stroitel'nyy institut.
(Asphalt)

GERASIMOV, S. [Herasimov, S.]

With masters of the blue flame. Znan.ta pratsia no.9:6-7 S '61.
(MIRA 14:8)
(Ukraine--Electric welding)

GERASIMOV, S., dotsent

Considerations prompted by experience. Zhil.-kom.khoz. 12
no.11:25-26 N '62. (MIRA 15:11)

1. Kazanskiy stroitel'nyy institut.
(Roads--Maintenance and repair)

GERASIMOV, Str.

The cycle of the hydrometeorological phenomena and its practical
use. Khidro i meteorolog no.3:3-12 '60. (EEAI 10:1)
(Hydrology) (Meteorology)

GERASIMOV, Str.

Critical notes on M. Dimchev's article, "Formula for Determining
the Flow of the Small Dams in Dobruja." Khidro i meteorolog
no.1:63-65 '61. (KRAI 10:7)

(Bulgaria--Dams) (Hydraulics)

GERASIMOV, Str.

On the genetic analysis of high waves. Khidro i meteorolog no.3:
10-21 '61.

~~GERASIMOV, D.~~ PANAIOTOV, T.

Discharge constants of only the high waves in the basin
of Maritsa River in 1957. Khidro i meteorolog no.6:19-28
'62.

GERASIMOV, Strakhil, inzh.; PANAIOTOV, Todor, inzh.

Forecasting the most frequent runoff of the Maritsa River. Khidrotekh
i melior 7 no.8:244-246 '62.

GERASIMOV, Str.

~~There is a small amount of water in the basin~~

Formation of a river discharge from underground waters during the high-wave period in the basins with shallow disposition of water resistance and the big slopes. Khidro i meteorolog no.1:37-49 '63.

GERASIMOV, S.

Formation of high waves by surface and ground waters. Khidro
i meteorolog 3:10-20 '63.

GERASIMOV, S. I.

Some problems in the analysis of high waves, and possibilities of their solution. Trud Inst khidro meteor 14:1-35 '63.

GERASIMOV, Str.; PANAIOTOV, T.

High waves on the Maritsa River. Trud Inst khidro meteor 14:37-103
'63.

GELASINOV, S. A.; PAVLOV, V. D.; PAVLOV, P. V.

Potatoes

Check-rowing potatoes with machinery. Izkh. dokl. vobshch. sp. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

GERASIMOV, S.A.

Seial'ka SShA-6A s prispodobleniem VIM (The SSh-6A planter with a device of the All Union Institute for the Mechanization of Agriculture). Moskva, Sel'khozgiz, 1954. 47 p.

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

2221 Gerasimov, S. A. And Pavlov, V. D.

Mashina Dlya Kvadratno-Gryezdovoy Posadki Kartgfyelya. Baku, Dyetyuaizdat, 1954
1 L. Slozh V (6) S. s Ill 22sm. (Glav. Upr. S. Kh Propagany I Nauki M-Va
Syel' Skogo Khozyaystua SSSR. B-Ka Molodogo Kolkhoznika) 2.000 EKZ B. Ts-Avt.
Ukazany V Kontsye Tyeksta : S. A. Kyer_asmov (I) I B (I) D. Pavlov-Na
Azyerbayozh Yaz.-
(54054464)

631.332.76

GYRASIMOV, S. A.

SKG-4 four-row potato checkrow planter Moskva, Gos. izd-vo sel-khoz, lit-ry, 1954.
95 p.

GERASIMOV, S., laureat Stalinskoy premii, kandidat tekhnicheskikh nauk;
PAVLOV, P., kandidat tekhnicheskikh nauk.

SSh-6A drill with attachment designed by the All-Union Institute
for the Mechanization of Agriculture. Tekhsov.MTS 15 no.4:1-16
P '54. (MLRA 7:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii
sel'skogo khozyaystva. (Drill (Agricultural implement))

GERASIMOV, S. A.

Drills for checkrowing corn Moskva, Gos. izd-vo selkhoz. lit-ry, 1955. 63 p.

GERASIMOV, S.A., kand.tekhn.nauk

Tasks of science and industry in developing over-all mechanization
in potato growing. Trakt. i sel'khoz mash. 30 no.7:13-16 J1'60.

(MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo
khozyaystva.

(Agricultural machinery) (Potatoes)

GERASIMOV, S.A., kand.tekhn.nauk; SOROKINA, L.P., inzh.; PIRONKOV, V.M.,
inzh.

Planting vegetable crops in wide strips. Mekh.i elek.sots.
sel'khoz. 19 no.5:53-54 '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii
sel'skogo khozyaystva.
(Vegetable gardening)

GERASIMOV, S.A., kand. tekhn. nauk

Universal machines for harvesting potatoes and sugar beets.
Mekh. i elek. sots. sel'khoz. 21 no.1:5-8 '63.

(MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii
sel'skogo khozyaystva.

(Sugar beets--Harvesting)
(Potato digger(Machine))

GERASIMOV, S.A., kand.tekhn.nauk; KOZYURA, K.S., kand.tekhn.nauk

Mechanization of potato harvesting in the German Democratic Republic.
Mekh. i elek. sots. sel'khoz. 21 no.4:58-61 '63. (MIRA 16:9)
(Germany, East--Potato digger (Machine))

24.6400

S/056/62/043/001/028/056
B104/B102

AUTHOR: Gerasimov, S. B.

TITLE: Dispersion relations for scattering of γ -quanta on a nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 1(7), 1962, 193 - 198

TEXT: In this study of the scattering of low-energy γ -quanta on a nucleus, the unstable compound states nucleus-photon and nucleus- e^+e^- pair, and the contributions of the nuclear excited states to the scattering are taken into account when setting up the dispersion relations for the amplitudes of scattering through an angle $\theta = 0^\circ$. The nuclear excited states are represented by poles on the second Riemann sheet of the elastic scattering amplitude. In first approximation, only the terms of higher order in e which make resonance contributions are omitted in the final form of the dispersion relations. There is 1 figure. /c

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR
(Physics Institute imeni P. N. Lebedev of the Academy of
Sciences USSR)

~~Card 1/2~~

43376

S/056/62/043/005/040/058
B125/B104

AUTHORS: Gerasimov, S. B., Lebedev, A. I., Petrun'kin, V. A.

TITLE: On the theory of neutron scattering by the Coulomb field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 5(11), 1962, 1872-1879

TEXT: The scattering of a neutron with regard to the electrical formfactor of the neutron and the contact interaction of the neutron with the nucleus is investigated in first and second perturbation-theoretical approximation. The behavior of a nucleon in the electromagnetic field is described phenomenologically by the matrix element

$$\langle p' | j_\mu | p \rangle = i \bar{u}(p') [g_{1n}(q^2) \gamma_\mu + g_{2n}(q^2) \sigma_{\mu\nu} q_\nu] u(p), \quad (1).$$

$$q = p' - p, \quad \sigma_{\mu\nu} = \frac{1}{2} i (\gamma_\mu \gamma_\nu - \gamma_\nu \gamma_\mu), \quad g_{1n}(0) = 0, \quad g_{2n}(0) = \mu_n.$$

Card 1/5

On the theory of neutron...

S/056/62/043/005/040/058
B125/B104

The spinors $\bar{u}(p')$ and $u(p)$ refer respectively to the final and the initial state of the neutron with the momentum p' and p . Here $\epsilon_{1n}(q^2)$ designates the electrical formfactor of the neutron, $\epsilon_{2n}(q^2)$ its magnetic formfactor.

The scattering of the neutrons in the Coulomb field of the nucleus and the lowest-order radiation corrections are described by the diagrams of Fig. 1. The diagram a describes the interaction of the magnetic moment with the electric field of the nucleus in first perturbation-theoretical order. The diagram b describes the second Born approximation of this interaction. The contribution of diagram B differs from the contribution of the polarization of the meson cloud by 1% at most. Despite the non-renormalizability of the theory with the current (1), the diagram is considered in the usual way by using experimental values for the abnormal magnetic moment

$\mu_n = 2e\hbar/2Mc$, $\lambda = -1.91$ of the neutrons. Possibly, also the diagrams of 6th order with respect to e contribute substantially to the electromagnetic scattering of nucleons on nuclei. The first two members of the differential cross section

Card 2/5

On the theory of neutron...

S/056/62/043/005/040/058
B125/B104

$$\frac{ds}{d\Omega} = \frac{F_n^2(q)}{4\mu^2 v^2 \sin^2(\theta/2)} g_{1n}^2(q^2) \left(1 - \frac{v^2}{c^2} \sin^2 \frac{\theta}{2}\right) + \frac{|F_n^2(q) g_{2n}^2(q^2)|}{\sin^2(\theta/2)} + \quad (5)$$

$$+ \frac{\mu^2 Z e^4}{\cos^2(\theta/2)} \left[\pi \left(1 - \sin^2 \frac{\theta}{2}\right) + 4 \ln^2 \sin \frac{\theta}{2} \right].$$

of the scattering of neutrons calculated according to R. Dalitz (Proc. Roy. Soc. 509, 1951) correspond to the diagram a and the third member corresponds to the diagram b. The difference of the second member of (5) from the non-relativistic formula by J. Schwinger (Phys. Rev., 73, 407, 1948) is conditioned by the automatical consideration of the interaction

$i(\mu_n/Mc)(\vec{E} \vec{p})$. μ_n designates the abnormal magnetic moment of the neutron.

This difference becomes most evident if angles are large. The third member in (5) depends linearly on the kinetic energy of the neutron and can contribute substantially if energies are of ~ 100 Mev. The total cross section of the production of an electron-positron pair on a neutron as a function of the photon energy k_0 takes the form

$$\sigma_n = 16e^4 (\mu_n/2M)^2 \left[\frac{4}{3} \ln^2 2k_0 - \frac{10}{3} \ln 2k_0 + \frac{161}{24} - 2\pi^2/9 \right]. \quad (9)$$

Card 3/5

On the theory of neutron...

S/056/62/043/005/C40/058
B125/B104

in the ultrarelativistic case. By means of dispersion relations, the contribution

$$\operatorname{Re} f(k_0) = k_0^2 \gamma(k_0) = \frac{k_0^2}{2\pi i} \int_{k_{\text{nop}}}^{\infty} \frac{\sigma_n(k'_0)}{k'_0 - k_0} dk'_0 \quad (10)$$

of the pair production to the amplitude of the γ n-scattering is obtained. The contribution of the diagrams 10 to the low-frequency limit of the π -scattering is 1/4 of the contribution of the polarizability of the meson cloud of the neutron. It is shown that the additional interaction potential

$U_{\text{int}} = -(1/2)a'_n E_0^2$ is conditioned by non-linear electrodynamic effects if the distance R between neutron and nucleus is large. $a'_n = \gamma a^{-3}$ holds and it is assumed that $a \sim 0.5$ μ /mc. Deviations observed in the experimentally determined cross sections of the neutron scattering on nuclei from those determined theoretically can not be explained by the electrodynamic effects investigated. Further, if U_{int} is expanded in powers of R^{-1} the members of higher order can become essential for experimental results. This can lead to a strong energy dependence of the cross section in the range of the

Card 4/5

On the theory of neutron...

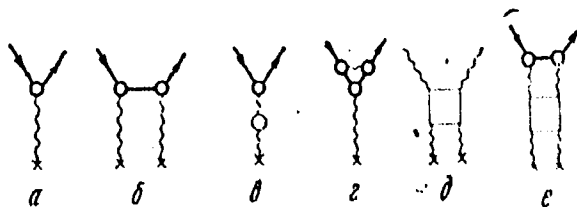
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B125/B104

photo-pairproduction threshold, in collisions of a neutron with a nucleus.
There are 3 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR
(Physics Institute imeni P. N. Lebedev of the Academy of
Sciences USSR)

SUBMITTED: June 6, 1962

Fig. 1: The
diagrams of
the discussed
processes.



Card 5/5

L 20393-66 EWT(m)/T

ACC NR: AP6005872

SOURCE CODE: UR/0367/65/002/004/0598/0602

AUTHOR: Gerasimov, S. B.

ORG: Joint Institute of Nuclear Research (Ob'yedinennyy institut yadern'kh issledovaniy)

TITLE: The sum rule for magnetic moments and damping of the magnetic moments of a nucleon in a nucleus

SOURCE: Yadernaya fizika, v. 2, no. 4, 1965, 598-602

TOPIC TAGS: magnetic moment, dispersion equation, Compton effect, nucleon interaction, nuclear structure, pion, photoproduction, multipole order, deuteron

ABSTRACT: The purpose of the investigation was to discuss the sum rule that follows for magnetic moments of particles from the dispersion relations without subtraction and from the low-energy theorem of Low (Phys. Rev. v. 96, 1428, 1954) and of Gell-Mann and Goldberger (Phys. Rev. v. 96, 1433, 1954) for the Compton effect, and to estimate on the basis of the sum rule the damping of the magnetic moment of a nucleon in the nucleus, resulting from the Pauli principle. It is shown that the Pauli principle causes the anomalous magnetic moment of a bound nucleon to decrease by 7-8 per cent compared with the free nucleon. The effect is calculated from

Card 1/2

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AOC NR: AF6005872

knowledge of the amplitude of the photoproduction of pions on nucleons in a limited energy region, where experiment can be well described by several lowest multipoles. The results are quite close to those obtained by S. D. Drell and J. D. Walecka (Phys. Rev. v. 120, 1069, 1960) by other means, and the agreement indicates that the sum rule derived in the paper is indeed satisfied. It is also noted that the damping of the magnetic moments of the nucleons in the deuteron helps reduce the disparity between the theoretical and experimental values of the magnetic moment of the deuteron. Several other possible applications of the obtained sum rule are pointed out. The authors thank A. M. Baldin for interest in the work and remarks. Orig. art. has: 15 formulas.

SUB CODE: 20/

SUBM DATE: 09Mar65/

ORIG REF: 003/

OTH REF: 008

Card

2/2

L 41739-66 EWT(m)/T

ACC NR: AP6020211

SOURCE CODE: UR/0056/66/050/006/1559/1564

AUTHOR: Gerasimov, S. B.

ORG: Joint Institute of Nuclear Research (Ob'yedinenyy institut yadernykh issledovaniy)

TITLE: Electromagnetic properties of baryons and mesons in the nonrelativistic quark model

SOURCE: Zh eksper i teor fiz, v. 50, no. 6, 1966, 1559-1564

TOPIC TAGS: strong nuclear interaction, baryon, meson, vector meson, wave function, quantum electrodynamics, electromagnetic property

ABSTRACT: The authors examine the electromagnetic properties of baryons and mesons under the following assumptions: 1) application of the medium-strong interaction that breaks SU(3) symmetry leads to a change in the mass of the "strange" quark, and to a violation of the proportionality of the quark magnetic moments to the quark charges; 2) the contribution of the interaction currents can be neglected; 3) the total orbital angular momentum is a good quantum number for the baryon multiplets ($1/2^+$ and $3/2^+$) and the meson multiplets (0^- and 1^-); 4) the wave functions of the particles transform in the rest frame in accordance with the SU(6) symmetry rules. Under these assumptions the author calculates the magnetic moments, the electromagnetic mass splitting, the radiative decay, and the electromagnetic radii of the mesons and baryons within the framework of the nonrelativistic quark model. The baryons

Card 1/2

ACC NR: AP6020211

considered are Σ^+ , Σ^0 , Σ^- , Ξ^0 , Ξ^- , and Ω^- , while the vector mesons considered are ω , K^* (charged), K^* (neutral), and ϕ . An expression is obtained for the vector-meson electric quadrupole moments, which are shown to be governed by relativistic effects. The results are compared with some experimental data. Orig. art. has: 16 formulas and 2 tables.

SUB CODE: 20/ SUBM DATE: 30Dec65/ ORIG REF: 004/ OTM REF: 010

Card 2/2 20

19

Differential manometer for high pressure. S. G. Chudakov and S. A. Chudov. *Izvestiya Akad. Nauk SSSR, No. 6, 22-23; Chem. Zvesti 1956, 1, 4194.*
 The manometer described for normal working pressure of 180-190 atm. is constructed of a U tube, part of which is of glass, part of steel and half filled with Hg.
 W. A. Moore

ASB-52.4 METALLURGICAL LITERATURE CLASSIFICATION

GROUP SYMBOLS	GROUPS NOT ONY ONE	COLLECTOR	DATE
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

F 213. AUTOMATIC BOILER CONTROL SYSTEM. Gerasimov, L. G. (Izvestiya Vsesoyuznogo Teplo-technicheskogo Instituta, Jan. 1946, No. 1, 11-15; Feb. 1946, No. 2, 22-28; "Ingers" Dig., Aug. 1946, 7, 233-236). M

A novel, fully electric, boiler control system is described. No special sources of energy are required for its operation; the original control impulse may be very small and several impulses can be superimposed. The use of small electric currents makes mercury contactors feasible, dispensing with relays and solenoids.

PA 3T27

GERASIMOV, S G

USSR/Steam Boilers
Governors

Jan 1946

"The All-Union TTI Steam Boiler Automatic Governing
System," S G Gerasimov, 5 pp

"Izv Vse Teplotekh Inst" Vol XV, No 1

First of two installments. Principal system of full
automatization of a TTI drum-boiler system, and of a
TTI uniflow. Ramzin boiler system.

3T27

GERASIMOV, S. G., IBCF

IA 29134

Engineering
Regulators
Thermodynamics

Oct 1947

"Regulating Thermal Technical Processes," Prof S. G.
Gerasimov, Dr of Technical Sciences, 6 pp

"Is VTI" No 10

An approximate method is suggested for calculating
the automatic regulating processes applicable to the
regulation of constant-speed ideal retarder systems.

LC

29134

GERASIMOV, S. G.

Author: Gerashinov, S. G.

Title: The theoretical fundamentals for the automatic regulation of thermal processes.
(Teoreticheskie osnovy avtomaticheskogo regulirovaniia teplovykh protsessov.)
327 pages.

City: Moscow

Publisher:

~~Publication~~ State Printing House of Literature pertaining to Power Engineering.

Date: 1949

Available : Library of Congress

Source: Monthly List of Russian Accessions, Vol. 3, No. 2, Page 97

GERASIMOV, S. ^G I., CHISTYAKOV, S. F. and DUDNIKOV, Ye. G.

"Avtomaticheskoye regulirovaniye kotel'nykh ustanovok," Gosenergoizdat,
1950

GERASIMOV, S. G.

Automaticka regulace kotelnich zarizeni. Praha, Technicko-vedecke vydavatelstvi, 1952. 354 p. (Automatic control of boiler-room equipment. Tr. from the Russian. illus., diagra., index)

SO: Monthly List of East European Accessions (FEAL), LC, Vol. 5, no. 12
December 1956

GERASIMOV, S. G.

Theoretical bases for automatic control of thermal processes. Reviewed
by I. I. Gal'perin. Izv. VTI 21, No 3, 1952.

GERASIMOV, S.G., doktor tekhnicheskikh nauk, professor.

~~-----[Automatic control at steam electric-power stations]~~

[Automatic control at steam electric-power stations] Avtomaticheskoe
regulirovanie na teplovykh elektricheskikh stantsiyakh. Moskva, Znani-
e, 1953. 29 p. (MLRA 6:12)

(Electric power plants) (Automatic control)

~~GERASIMOV, S.G.~~ professor, redaktor; KAGAN, Ya.A., kandidat tekhnicheskikh nauk, redaktor; LEBEDEV, P.D., professor, glavnyy redaktor; LUKNITSKIY, V.V., professor, redaktor [deceased]; SHEYNDLIN, A.Ye., professor, redaktor; AYZENSHTAT, I.I., redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Heat engineering handbook] Teplotekhnicheskii spravochnik. Moskva, Gos.energ.isd-vo. Vol.1. 1957. 728 p. (MLRA 10:9)
(Heat engineering)

GERASIMOV, S.G.

GERASIMOV S.G.

14(1): 15(6) PAGE 1 BOOK EXPLOITATION 30W/1499
 Replication of the original, t. 2 (Heat Engineering Hand-
 book, Vol. 2) Moscow, Gostenergizdat, 1928. 672 p. 40,000
 copies printed.

Compilers (All Instructors of the Moscow Power Institute):
 V.V. Lomitskiy, Doctor of Technical Sciences (Deceased);
 Ya.Ya. Samoylov, Doctor of Technical Sciences (Deceased);
 Doctor of Technical Sciences; M.Ye. Lavrov, Doctor of Technical
 Sciences; A. I. Kostikov, Candidate of Technical Sciences; A.M. Sherstyuk,
 Candidate of Technical Sciences; S.P. Nikitin, Candidate of
 Technical Sciences; S.P. Chistyakov, Candidate of Technical
 Sciences; Ye.G. Dudnikov, Doctor of Technical Sciences; A.M.
 Maklakov, Candidate of Technical Sciences; V.I. Kozlov,
 Candidate of Technical Sciences; V.I. Kozlov, Candidate of
 Technical Sciences; K.P. Vozmin, and G.Ye. Iaroslav; Eds. of Set:
 S.G. Gerasimov, Professor; Ya.A. Egan, Doctor; P.D. Lebedev,
 Professor (Chief Ed.) and V.V. Lomitskiy, Professor (Deceased).

Card 1/6

Heat Engineering (Gen.)

30W/1499

PURPOSE: This book is intended for students of power engineer-
 ing and polytechnical schools. It may also be used by engineer-
 ing and technical personnel engaged in the design, construc-
 tion and operation of thermal equipment of thermoelectric
 power stations and industrial plants.

COVERAGE: This is the second volume of a two-volume heat-engineer-
 ing handbook compiled by a group of professors and doctors of
 the Moscow Power Engineering Institute. This volume deals
 with thermoelectric power stations, heating and ventilating
 systems, industrial plant thermal equipment, heat measuring
 instruments and automatic control of thermal processes other
 equipment. Brief information on the following subjects is
 given: heat exchangers, evaporating and fractionating equipment,
 refrigeration systems, heat pumps, storage of fuel gases, pumps, fans,
 ducts, transmission and transporting mechanisms, and tempera-
 ture, pressure and flow measuring instruments. Standard graphi-
 cal symbols for heat-power plant equipment and instruments and
 also the letter symbols and corresponding dimensions of various
 engineering quantities are given. Changes in the GOST (All-

Card 2/6

~~3(1)~~ 24.6810

AUTHORS:

66552
Gerasimov, Sergey Grigor'yevich, Doctor SOV/161-59-1-21/25
of Technical Sciences, Professor, Pan'ko, Mark Andreyevich,
Aspirant

TITLE:

Stabilization of the Temperature Regimen in Large Rectangular
Cloud Chambers

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika,
1959, Nr 1, pp 181-189 (USSR)

ABSTRACT:

In the work under review a basic circuit diagram for regulation
of the temperature regimen in a cloud chamber working in a
magnetic field is given. The authors proceed from the
following considerations in the construction of this circuit
diagram. The amplitude-phase characteristic and the amplitude-
frequency characteristic show that the chamber has strong
filter properties with respect to high-frequency oscillations
as an aperiodic element of first order with a great time
constant. The installation of the chamber in a thermostat
increases its filter properties. The characteristics reveal
that the thermostat is an efficient high-frequency filter.
Its use is expedient in all cases in which short-termed
external disturbances may occur. The stabilization of the

Card 1/3

Stabilization of the Temperature Regimen in Large
Rectangular Cloud Chambers

SOV/161-59-1-21/25

temperature regimen of the chamber consists in the elimination of external disturbances. At the same time the vertical temperature gradient in the operational range of the chamber must be maintained. This can be guaranteed only if the temperature of the lower chamber wall is equal to that of the upper one. It is shown that temperature stabilization of the upper and lower chamber wall and the compensation for disturbances (caused by the poles) may be attained by excitation of the corresponding high-frequency oscillations at the inputs of the various high-frequency ranges, provided the value of the constant oscillation component does not change. An excitation of oscillations at the input of the object is warranted by a simple mechanism consisting of a condenser (system of coils through which water flows) an electric preheater and controllers with 2 positions. The controllers act upon the preheater (according to the value of the temperature to be regulated). It was experimentally determined that the mean temperature remains constant. The specific feature of the installation is its constant load. Figure 5 illustrates such a basic circuit diagram for temperature

Card 2/3

Stabilization of the Temperature Regimen in Large
Rectangular Cloud Chambers

SOV/161-59-1-21/25

stabilization. Laboratory and operational tests confirmed the applicability of above circuit diagram. The publication of this article was recommended by the institute mentioned in the "Association". There are 6 figures and 3 Soviet references.

ASSOCIATION: Kafedra teplovogo kontrolya i avtomatiki Moskovskogo energo-
ticheskogo instituta (Chair of Heat Regulation and Automation
at the Moscow Institute of Power Engineering)

SUBMITTED: October 10, 1953

Card 3/3

GERASIMOV, S.I.

Prospect for development of the sugar industry of the R.S.F.S.R.
'in 1959-1965. (MIRA 12:1)

1. Gosplan RSFSR.
(Sugar industry)

GERASIMOV, S.I.

Flangeless coupling of pipes. Sakh.prom. 33 no.6:48 Je '59.
(MIRA 12:8)

(Pipe fitting) (Sugar industry—Equipment and supplies)

GERASIMOV, S.I.

Processing unrefined sugar cane. Sakh.prom. 34 no.6:15-16 Je
'60. (MIRA 13:7)
(Sugar cane)

GERASIMOV, S.I.

Rise in the productive capacity of granulated sugar
factories of the U.S.S.R. Sakh.prom. 34 no.8:6-7
Ag '60. (MIRA 13:8)

1. Gosplan RSFSR.
(Sugar industry)

GERASIMOV, S.I.

Fodder yeasts from the wastes of the separation sections of sugar
factories. Sakh. prom. 35 no.2:5 F '61. (MIRA 14:3)
(Yeast) (Sugar--By-products)

GERASIMOV, S.I.

Growth of the sugar industry in the first two years of the seven-year
plan. Sakh.prom. 35 no.4:1-5 Ap '61. (MIRA 14:3)
(Sugar industry)

GERASIMOV, S.I.; SELYATITSKIY, V.A.

Hungarian "J" diffusion apparatus. Sakh.prom. 35 no.6:64-71 Je '61.
(MIRA 14:6)

1. Gosplan RSFSR (for Gerasimov). 2. Vserossiyskiy Sovet
Narodnogo Khozyaystva (for Selyatitskiy).
(Hungary--Sugar machinery)

GERASIMOV, S.I.

Standard designs for granulated sugar factories. Sakh.prom. 35
no.747-50 JI '61. (MIRA 14:7)
(Sugar industry)

ZOTOV, V.P.; MAKHINTA, M.M.; PARSHIKOV, M.Ya.; GAVRILOV, A.N.; SILIN, P.M.;
GOLOVIN, P.V.; KHEYZE, N.V.; BUZANOV, I.F.; KHELEMSKIY, M.Z.;
YAPASKURT, V.V.; SHARKO, A.P.; SANOV, N.M.; LITVAK, I.M.; IVANOV,
S.Z.; LEPESHKIN, I.P.; KLEYMAN, B.M.; YIPISHIN, A.S.; GOLUB, S.I.;
GERASIMOV, S.I.; GEUBE, V.R.; PASHKOVSKIY, F.M.; LITVINOV, Ye.V.;
BENIN, G.S.; IVANOV, P.Ya.; VINOGRADOV, N.V.; PONOMARENKO, A.P.;
ZHIDKOV, A.A.; KOVAL', Ye.T.; KARTASHOV, A.K.; NOVIKOV, V.A.

Sixtieth birthday of A.N.Shakin, Director of the Central
Scientific Research Institute of the Sugar Industry. Sakh.
prom. 35 no.7:33 JI '61. (MIRA 14:7)
(Shakin, Anatolii Nikitovich, 1901-)
(Sugar industry)

SOKOLOV, S.V.; MAZALOV, S.A.; GERASIMOV, S.I.

Reaction of tertiary perfluorinated amines with aluminum chloride.
Synthesis of perfluorocyclohexanone. Zhur. VKHO 10 no.2:234-235
'65. (MIRA 28:6)

1. Ural'skiy politekhnicheskii institut imeni Kirova.

MAZALOV, S.N.; GEFASIMOV, S.I.; SOROKOV, S.V., MOSCOW, U.S.S.R.

Methods of production and properties of organofluorine compounds. Part 1: Electrochemical method of production of perfluorinated tertiary heterocyclic amines. Zhur. ob. khim. 35 no.3:485-489 Mr '65. (MIRA 18:4)

1. Ural'skiy politekhnicheskii institut imeni S.M. Kirova.

I. 21497-66 EWT(m)/EWP(j) WW/RM
ACC NR: AP6009158

SOURCE CODE: UR/0079/66/036/003/0532/0537

AUTHOR: Gerasimov, S. I.; Mazalov, S. A.; Plashkin, V. S.; Sokolov, S. V.

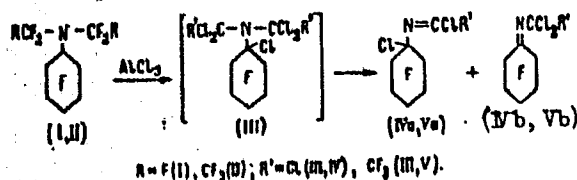
ORG: Ural Polytechnic Institute im. S. M. Kirov (Ural'skiy politekhnicheskiy institut) 27
B

TITLE: A study of preparative methods and properties of fluoroorganic compounds.
III. Perfluorodialkylcyclohexylamines

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 532-537

TOPIC TAGS: fluoroamine, fluorination, electrochemical halogenation

ABSTRACT: The authors investigated the electrochemical fluorination of dimethylaniline and diethylaniline. Various factors affecting the process were discussed. It was demonstrated that perfluorodialkylcyclohexylamines react with anhydrous aluminum chloride to form polyfluorochloroimines:



Cord 1/2

UDC: 546.16:541.138:547.551+547.446

L 21497-66

ACC NR: AP6009158

Hydrolysis of the chloroimines with concentrated sulfuric acid yields perfluoro-cyclohexanone. Hydrolysis of the chloroimines with aqueous alkali leads to the formation of omega-hydroperfluorocaproic acid, a haloform reaction product of perfluorocyclohexanone. Orig. art. has: 2 tables. [VS]

SUB CODE: 07/ SUBM DATE: 07Apr65/ ORIG REF: 003/ OTH REF: 005/ ATD PRESS: 4222

Card 2/2

GERRASIMOV, S. M.

Feeding of direct and alternating current receivers Moskva, Gudok 1935 . 144 p.

GERASIMOV, S.M.

Kak chitat' radioskhemu. [How to read radio charts] Izd. 4., znovno perer. Moskva
Gos. energ. izd-vo, 1948. 112 p. (Massavaia radio biblioteka) DLC: Slavic unclass

"How to Read Radio Schematic Diagrams." This book consists of the following: designations used to signify components, etc., including legends, types of circuits used by receivers, rectifiers, transformers, etc., and designing new circuit arrangements.

SO: Soviet Transportation and Communication. A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

GYRASIMOV, S. M.

Kak se chetat radioskhmi How to read radio diagrams Prevede ot ruski K.
Savchenko. Sofia Fizkulture 1950 123 p.

1. Radio - Amateurs' manuals.

4TK-156

GERASIMOV, S. M.

Design of amateur radio receiving sets. Moskva. Gosexergoizdat, 1951.

"Designing Radio Receivers". This book covers the basic principles of designing radio receivers, including formulas, diagrams and circuit arrangements. This work is a practical aid for radio amateurs.

1. GERASIMOV, S. M.
2. USSR (600)
4. Technology
7. Computation of amateur radio receiving sets. Moskva, Gosenergoizdat, 1952
9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

USSR / Radiophysics

I

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 10054

Author : Gerasimov, S.M.

Inst : ~~Not~~ given

Title : Energy Indices of Semiconductor Oscillator with Independent
Excitation in the Supercritical Frequency Region

Orig Pub : Elektrosvyaz', 1956, No 9, 68-82

Abstract : The author proposes and justifies the concept of a critical frequency, at which the collector current pulses are reduced by a factor of $\sqrt{2}$. Calculations and diagrams are given, as are experimental data on a 10-watt oscillator with independent excitation using a P-4 transistor, operating at 15, 22, 32 and 60 kc. At the higher frequency one notices an increase in the lower cutoff angle to 135° , and a change in the direction of the dc component of the current in the base, which leads to an increase in the necessary excitation power and to

Card : 1/2

USSR / Radiophysics

I

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 10054

Abstract : a reduction in the power delivered by the oscillator. By choosing the excitation voltage and the bias voltage it is possible to retain the nominal power at the supercritical frequency, without exceeding the permissible dissipation at the collector, but in this case the possibility of a transistor breakdown is increased.

Card : 2/2

GERASIMOV, S.M.

"Investigation of the Self-Oscillation Process in an
Oscillator With a Junction-Type Semiconductor Transistor,"
by S. M. Gerasimov, Elektrosvyaz, No 3, Mar 57, pp 24-34

The results of the investigation are given as follows:

"1. In self-oscillators with semiconductor junction-type transistors the disturbance of the phase balance may be the cause of a collapse of the oscillations at higher supercritical frequencies even before the disturbance of the amplitude balance occurs as a result of the decrease of the power amplification factor.

"2. The application of the system of self-oscillators with phase correction in the feedback circuit sometimes permits an increase in the frequency range of the self-oscillations. For example, with a self-oscillator connected with the PZB low-frequency transistor, it is possible to obtain continuous self-oscillation with frequencies up to 500 kilocycles, whereas without such corrections the frequency range of the self-oscillation is equal to 90 kilocycles.

"3. To improve the conditions of self-oscillation, in order to obtain a mild self-oscillation, it is necessary to supply a small initial negative bias to the transistor base." (U)

GERASIMOV, S.M.

PHASE I BOOK EXPLOITATION

SOV/3890

Herasymov, Serhey Mykhaylovych, Ihor Mykolayevych Myhulin, and
~~Vasyi~~ Mykolayevych Yakovlyev

Rozrakhunok napivprovidnykovykh pidsylyuvachiv i heneratoriv (Cal-
culation of Semiconductor Amplifiers and Generators). Kyiv,
Derzhtekhvydav URSR, 1958. 287 p. 2,500 copies printed.

Ed.: Yu.Ye. Korsak; Tech. Ed.: R. Bezp'yatov.

PURPOSE: This monograph is intended for engineers and technicians
working in the field of semiconductor devices, for students
of radio engineering departments of schools of higher education,
and for technically advanced radio amateurs.

COVERAGE: The book summarizes recent advances in design and use
of semiconductors in solid-state electronics, mainly in ampli-
fiers and generators. Methods of calculating semiconductor para-
meters relative to their application to particular devices are
outlined and evaluated, and requirements according to type of
operation are given. Chapters I and II were written by I.M.
Myhulin; chapters III-V by S.M. Herasymov; chapters VI-VIII by

Card 1/8

Calculation of Semiconductor (Cont.)

SOV/3890

V.M. Yakovlev, and chapters IX, X, and all appendixes were written collectively by all three authors. There are 36 references: 32 Soviet (2 of which are translations), 3 English, and 1 German.

TABLE OF CONTENTS:

Foreword	3
Ch. I. Design Methods Used for Transistor Amplifier with Junction Triodes	5
1. Parameter system for junction triode	5
2. Equivalent Π -shaped network and conduction frequency response characteristics	7
3. Basic parameter relations for transistor amplifier with high load impedance	10
4. Basic parameter relations in pre-amplifying stages	15
5. Amplifiers with inter-stage matching	
6. Feedback amplifiers	22
7. Choice of operating conditions and plotting dynamic characteristic curves	31

~~Card 2/8~~

PHASE I BOOK EXPLOITATION

SOV/5586

Gerasimov, Sergey Mikhaylovich, Igor' Nikolayevich Migulin, and Vasilii Nikolayevich Yakovlev

Raschet poluprovodnikovkh usiliteley i generatorov (Design of Semiconductor Amplifiers and Generators) 2d ed., rev. and enl. Kiyev, Gostekhizdat UkrSSR, 1961. 430 p. 25,000 copies printed.

Ed.: Yu. Ye. Korsak; Tech. Ed.: S.M. Matusevich.

PURPOSE: This book is intended for engineering and technical personnel concerned with the application of semiconductor devices. It may also be useful to students of radio engineering divisions in schools of higher education and to advanced radio amateurs.

COVERAGE: The book discusses calculation principles of transistorized amplifiers, generators, and pulse circuits. Chs. I, II, III, and XII were written by I.N. Migulin; Chs. IV, V, and VI by S.M. Gerasimov; Chs. VII, VIII, IX, X, and XI by V.N. Yakovlev. References to each chapter are listed separately in the Bibliography. There are 43 references: 37 Soviet and 6 English.

Card 1/9

31990
S/142/61/004/004/011/018
E192/E382

9.2520 (1159, 1161)

AUTHOR: Gerasimov, S.M.

TITLE: Determination of harmonic current components in a transistor class-C amplifier

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 4, 1961, 468 - 476

TEXT: The experiments show that the current pulses of an emitter in a class-C resonance amplifier based on a transistor are asymmetrical if the operating frequency $f > 0.5 f_{\alpha}$, where f_{α} is the cut-off frequency of the transistor. The situation is illustrated in Fig. 2, where a negative current pulse is also shown. This negative pulse can be represented by a portion of a sinusoid. The height of the negative pulse can be expressed by:

$$I_b = I_{max} \frac{\cos \theta - \cos (\theta + \theta)}{1 - \cos \theta}, \quad (1)$$

Card 1/1

"n(2)

31990

S/142/61/004/004/011/018

E192/E582

Determination of

are the harmonic expansion coefficients. The current vector $I_{\phi n}$ is advanced in phase with respect to the vector $I_{\psi n}$ by an angle ψ . As regards the collector-current components, these can be expressed by:

$$\frac{I_{\phi n}}{I_{\psi n}} = a \left[1 - \frac{\cos \theta_1 - \cos (\theta_1 + \psi)}{1 - \cos \theta_1} \cdot \frac{z_n(0)}{z_n(\theta_1)} \right] \frac{z_n(\theta_1)}{z_n(\theta_1)} \cdot \frac{z_n(\theta_1)}{z_n(\theta_1)} \cdot F_1(\theta_1, \psi).$$

B

where the function F_1 is defined by:

$$F_1 = \frac{I_{\phi n}}{1 + \delta_1^2 - 2\delta_1 \cos (\theta_1 + \psi)} = I_{\psi n} \cdot F_1(\theta_1, \psi).$$

C

$$F_1(\theta_1, \psi) = \frac{1}{1 + \delta_1^2 - 2\delta_1 \cos (\theta_1 + \psi)}.$$

Card 3/54

31990
S/142/61/004/004/011/018
E192/E382

Determination of

where $\Theta_K = \Theta_3 + 0.5 \omega \tau_{\pi}$. In the above, τ_{π} is the average drift time of the minority carriers between the emitter and the collector of a p-n junction. The harmonics of the base current can be determined from:

$$I_{bn} = \sqrt{I_{pn}^2 + I_{kn}^2 - 2I_{pn}I_{kn}\cos\tau_{\pi}}$$

where $\varphi_{bn} = \varphi + \psi = \varphi + \omega \tau_{\pi}$.

There are 12 figures and 4 Soviet-bloc references.

ASSOCIATION: Kafedra radiopere dayushchikh ustroystv Kiyevskogo
ordena Lenina politekhnicheskogo instituta
(Department of Radio-transmitting Devices of Kiev
Order of Lenin Polytechnical Institute)

SUBMITTED: December 31, 1960

Card 4/5

37410
S/142/62/005/001/003/012
E192/E382

9.2520

AUTHOR: Gerasimov, S.M.

TITLE: Design of class-C transistor amplifiers
PERIODICAL: Izvestiya vysshikh uchobnykh zavedeniy,
Radiotekhnika, v. 5, no. 1, 1962, 37 - 46

TEXT: - Various design formulae and graphs for the modulus and phase of the current gain in a class-C transistor amplifier were given in an earlier work (Ref. 1 - the author - Izv. vuzov SSSR, Radiotekhnika, v. 4, no. 4, 1961, 468). These data can be used for evaluating the power relationship in the amplifier if a functional dependence is found between the emitter or collector current and the voltages on the electrodes of the transistor. At high frequencies, when the drift time τ_n of the minority carriers in the base between the p-n junctions is much smaller than the period T of the signal, the design of the amplifier can be based on the voltage-current characteristic of the emitter since the drift time of the minority carriers in this junction is much smaller than that of the base. Such a characteristic

Card 1/4

S/142/62/005/001/005/012
E192/E582

Design of

cannot be measured directly but it can be constructed on the basis of the current-voltage base characteristic and the characteristic giving the emitter current as a function of the base current. It can be assumed for the purpose of calculation that these characteristics can be approximated by straight lines. The problem now consists of determining the current gain of the emitter with respect to the input. It is shown that the modulus of the gain is expressed by:

$$K_0 = \frac{1}{\sqrt{[1 + r_0 \cdot S_{enc}(\cos \psi - \alpha_f \cos \theta)]^2 + [r_0 S_{enc}(\sin \psi + \alpha_f \sin \theta)]^2}} \quad (9)$$

$$\varphi_0 = \arctg \frac{r_0 S_{enc}(\sin \psi + \alpha_f \sin \theta)}{1 + r_0 \cdot S_{enc}(\cos \psi - \alpha_f \cos \theta)} \quad (10)$$

Card 2/4

Design of

S/142/62/005/001/003/012
E192/E382

where r_c is the high-frequency base resistance,
 S_{enc} is the modulus of the mean slope of the emitter-current characteristic,
 α_f is the modulus of the current gain for the first harmonic,
 φ is the phase-shift between the first harmonics of the emitter and base current, and
 δ is the phase-shift between the first current harmonics $I_{\beta 1}$ and I_{K1} .

The average slope S_{enc} can be expressed in terms of the transistor parameters and the flow angle Θ_1 for the positive emitter current pulses (see Ref. 1). The functions K_c and φ_1 are plotted in a number of graphs for various operating conditions. These graphs can be used in the design of a class-C amplifier. If the voltage on the emitter p-n junction

Card 3/4

Design of ...

S/142/62/005/001/003/012
E192/E382

is known, the positive emitter current pulses can be determined provided the flow angle θ_s is known. It is then possible to determine the fundamental of the emitter current as well as the fundamental and harmonics of the collector current. By knowing these parameters the input and output powers of the amplifier and its efficiency can be evaluated. There are 6 figures.

ASSOCIATION: Kafedra radioneredayushchikh ustroystv
Kiyevskogo ordena Lenina politekhnicheskogo
instituta (Department of Radio-transmitting
Devices of Kiyev Order of Lening Polytechnical
Institute)

SUBMITTED: June 12, 1961

Card 4/4

TROKHIMENKO, Yaroslav Karpovich [Trokhymenko, I.A.K.], kand. tekhn. nauk; GERASIMOV, S.M. [Herasymov, S.M.], prof., docent; RAK, A.I., inzh., red. izd-va; STARGODUB, T.O., tekhn. red.

[Transistors in electronic circuits] Tranzistory v elektronnykh skhemakh. Kyiv, Derzhtekhvydav URSR, 1963. 168 p. (MIRA 17:3)

GERASIMOV, S.M.; MIGULIN, I.N.; YAKOVLEV, V.N.; MASHAROVA, V.G.,
red.; HELYAYEVA, V.V., tekhn. red.

[Fundamentals of the theory and design of transistor
circuits] Osnovy teorii i rascheta tranzistornykh skhem.
Moskva, Izd-vo "Sovetskoe radio," 1963. 663 p.

(MIRA 16:10)

(Transistor circuits)

GERASIMOV, S.M., prof.; SPIRIDONOV, N.S., dotsent, kund. tekhn. nauk

Review of IA. A. Fedotov's book "Principles of the physics
of semiconductor devices." Izv. vys. ucheb. zav.; radiotekh.
7 no.1:126 Ja-F'64. (MIRA 17:5)

GERASIMOV, S.M., kand. tekhn. nauk

Review of I.P. Stepanenko's book "Principles of the theory of
transistors and transistor circuits." Izv. vys. ucheb. zav.;
radiotekh. 7 no.2:257 Mr-Apr '64. (MIRA 17:8)